

Manuscript version: Published Version

The version presented in WRAP is the published version (Version of Record).

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/160151>

How to cite:

The repository item page linked to above, will contain details on accessing citation guidance from the publisher.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work of researchers of the University of Warwick available open access under the following conditions.

This article is made available under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International and may be reused according to the conditions of the license. For more details see: <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>



Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk

**Exploring the consequences of religious experience within the Greer tradition:
Effects on personal affect and on religious affect**

Leslie J. Francis
University of Warwick
(leslie.francis@warwick.ac.uk)

Introduction

Alister Hardy played a pioneering and highly influential role in the developing science of religious experience when he first set out to collect accounts of the religious experiences of a wide range of ‘ordinary’ people (Hay, 1982, 2011; Franklin, 2014). In this context ‘ordinary’ is employed in the non-perjorative sense refined by Astley (2002) to designate individuals who had neither specific expertise, training nor status within religious or academic communities. Hardy (1979) began his (now well-established) archive of religious experiences by placing a request in national papers to invite people to respond to a question that evolved into what has now become known in the scientific community as ‘The Hardy Question’:

Have you ever been aware of or influenced by a presence or power, whether you call it God or not, which is different from your everyday self?

Attention to the precise formulation of the question is not insignificant, since the question asked helps to shape the range of answers given. Hardy was not alone in shaping a question to elicit empirical data concerning religious experience. A range of other (similar but distinctive) questions have been formulated within both qualitative and quantitative research traditions. For example, Glock and Stark (1965) asked:

Have you ever as an adult had the feeling that you were somehow in the presence of God?

Back and Bourque (1970) asked:

Would you say that you have ever had a ‘religious or mystical experience’ – that is, a moment of sudden religious awakening or insight?

Greeley (1974) asked:

Have you ever felt as though you were close to a powerful spiritual force that seemed to lift you out of yourself?

It is within this broader context that John Greer formulated what has now become known in the scientific community as 'The Greer Question':

Have you ever had an experience of God, for example, his presence or his help or anything else?

The Greer tradition

Born in Northern Ireland in 1932, John Edmond Greer began his academic career shaped within agricultural sciences, focusing his doctoral research on potato blight. After ordination within the Anglican Church of Ireland, Greer focused his scientific curiosity and methodological skills on investigating the religion of Protestant adolescents within his homeland. Greer's first study was influenced by Cox's (1967) investigation of sixth-form religion in England. In 1968 Greer replicated and slightly modified Cox's survey among 1,631 sixth-form students attending controlled or Protestant Voluntary schools, publishing the findings in *A Questioning Generation* (Greer, 1972). Greer established this 1968 study as offering a baseline against which future replication studies could monitor change and chart trends. By the time that Greer was planning his first replication to take place a decade later in 1978 he had been influenced by the pioneering initiative established by Alister Hardy in Oxford in 1969, and had formulated his own religious experience question to include in his ongoing programme of research.

Greer employed his religious experience question for the first time in 1978 among 1,872 upper sixth-form students at controlled or Protestant voluntary schools. In his report of this study Greer (1981) found that 38% of the males and 51% of the females gave a positive response to his religious experience question. Greer employed the question for the second time in 1981 among 940 Catholic and 1,193 Protestant students between the ages of 12 and 17 attending 19 secondary and grammar schools. According to Greer (1982) this time the answer 'yes' was given to the religious experience question by 31% of the Protestant males, 39% of the Protestant females, 35% of the Catholic males and 64% of the Catholic females. In this study Greer found no significant age differences in the proportions of students who reported religious experiences.

Greer employed the question for the third time in 1984 among 1,177 fourth-, fifth- and sixth-form students from ten Protestant and ten Catholic schools. According to Francis and Greer (1993) this time the answer 'yes' was given by 26% of the Protestant

males, 38% of the Protestant females, 34% of the Catholic males and 56% of the Catholic females. Greer employed the question for the fourth time during the school year 1991-1992 among 2,129 third-, fourth-, fifth- and sixth-form students attending 12 Protestant and 12 Catholic grammar schools. According to Francis and Greer (1999) this time the answer 'yes' was given by 37% of the Protestant males, 56% of the Protestant females, 49% of the Catholic males and 61% of the Catholic females.

Greer's question was employed for the fifth time in Northern Ireland in 1998 among 2,359 sixth-form students (1,093 attending seven Protestant schools and 1,266 attending nine Catholic schools). In her analysis of these data, ap Siôn (2006) found that religious experience was reported by 29% of Protestant males, 29% of Catholic males, 39% of Protestant females and 38% of Catholic females. Compared with earlier data these figures reveal a particularly marked decline in reported religious experience among Catholic females (64% in 1981, 56% in 1984, 61% in 1992 and 38% in 1998). The content of the reported religious experience is analysed and illustrated within nine descriptive categories characterised as: help and guidance, exams, God's presence, answered prayer, death, sickness, conversion, difficulty in describing, and miscellaneous. In addition to providing information about the level of reported religious experience among Protestant and Catholic students, many of Greer's surveys also invited those students who gave the answer 'yes' to his religious experience question to 'describe this experience if you can.' For example, in the 1978 study 28% of the students accepted the invitation to describe their religious experience, and in the 1981 study 31% did so. The two analyses reported by Greer (1981, 1982) attempted to categorise these descriptions of religious experience within discrete groups. Greer (1981) proposed nine categories which he characterised as: guidance and help, examinations, depression and sickness, death, answered prayer, God's presence, conversion experiences, good experiences, and miscellaneous. Greer (1982) reduced the number of categories to eight by eliminating the category 'good experience.' Greer fully recognised the arbitrary and problematic process of attempting to assign each account to one category.

Greer's question was employed for the sixth time in Northern Ireland in 2010 among sixth-form students attending Protestant schools and sixth-form students attending Catholic schools. This time the study was also extended to the Republic of Ireland. The rich qualitative data generated from the 2010 study has been analysed separately for Northern Ireland by ap Siôn (2017), and for the Republic of Ireland by Astley (2017, 2019). The present study now proposes to interrogate these data from a quantitative perspective and to do so by building on the earlier work, reported by Greer and Francis (1992), Francis and Greer (1993, 1999), and Francis, ap Siôn, Lewis, Robbins,

and Barnes (2006), in a series of studies concerned with exploring consequences of religious experience.

Exploring consequences of religious experience

In his book, *The spiritual nature of man: A study of contemporary religious experience*, Hardy (1979) set out to offer 'a provisional classification of the various elements found in the accounts of religious experience so far examined' within his developing archive of such accounts (p. 25). At the same time he began to identify features that he described as 'triggers and consequences' of religious experience (pp. 81-103). His section on consequences is preliminary, and tantalizingly, brief (pp. 98-103). Hardy recognises that 'it is not always easy to distinguish between an actual experience and the consequences' (p. 98). He argues as follows:

Where it has been of a sudden or dramatic kind it may be easy to note certain obvious differences it has made, to see definite changes in the attitude of behaviour of the person concerned. In other cases developments may be felt to be part of the experience itself, consisting as it does in gradual awareness of new potentiality for growth and understanding (Hardy, 1979, pp. 89-90).

Working with this caution in mind, Hardy distilled from the evidence within his archive three main differentiated consequences of religious experience that he conceptualised as 'a sense of purpose or new meaning to life' (p. 99), 'changes in religious belief' (p. 99), and 'change in attitude to others' (p. 101). In terms of a sense of purpose or new meaning to life, Hardy cites one individual who said of his religious experience 'that it altered my whole outlook on life' and another individual who said 'my dormant soul suddenly came to life again, and I began rapidly to enjoy life.' In terms of change in religious belief, Hardy cites one individual who said of her religious experience that it 'made Christianity comprehensible to me [...] The ritual of religion now had a meaning which is why I decided to go regularly go church,' and another individual who said, 'I could do no other than identify myself with the Christian community.' In terms of change in attitude to others, Hardy cites one individual who said of her religious experience that it 'has resulted in the most wonderful feeling of freedom and a flow of love and compassion for others – a much more complete understanding of their needs and feelings,' and another individual who said that 'in the light of such vision, one's care and concern for others become more vital and loving.'

Within the wider context of his research on religious experience among secondary school students in Northern Ireland, and drawing on Hardy's interest in the consequences of religious experience, Greer took a special interest in exploring the effect or consequences of having, and of acknowledging, religious experience among the participants in his survey. Greer hypothesised that a primary consequence of religious experience within the context of Northern Ireland would be reflected in supporting and maintaining a positive attitude toward religion. Greer's hypothesis is consistent with the second of Hardy's (1979) three categories of the consequences of religious experience, namely changes in religious belief. Greer operationalised this hypothesis by including in his survey the Francis Scale of Attitude toward Christianity (see Francis, 1989, 2009). The Francis Scale of Attitude toward Christianity has its origins in the work of Francis (1978a, 1978b). Drawing on the conceptual tradition of Fishbein (1967), Francis conceptualised attitude as a unidimensional construct concerned with the affective dimension of religion, as distinct from the cognitive dimension of religion (concerned with belief) and the behavioural dimension of religion (concerned with practice). Drawing on the scaling tradition of Likert (1932), Francis operationalised the affective dimension of attitude toward Christianity through 24 items concerned with an affective response to five components of the Christian faith accessible to and recognised by children, young people and adults, namely God, Jesus, Bible, prayer, and church. Comprising both positive and negative items this instrument was found to work with satisfactory properties of reliability and validity from the age of eight years upwards. The Francis Scale of Attitude toward Christianity has been shown to function with good internal consistency reliability and construct validity in Northern Ireland among students attending both Protestant (Francis & Greer, 1990) and Catholic (Greer & Francis, 1991) secondary schools.

Greer hypothesised that, if the acknowledgement of personal religious experience was core to shaping a positive attitude toward Christianity, religious experience should contribute additional predictive power to attitude scores after taking into account other factors known to predict individual differences in attitude scores. Greer first tested this theory on data generated by 1,177 fourth-, fifth-, and sixth-year students attending both Protestant and Catholic schools. In this study reported by Francis and Greer (1993), Greer employed multiple regression to build a model which could explore the cumulative relationship between a number of different factors and a positive attitude toward Christianity. First, he entered into the model the influence of sex, church attendance, personal prayer, and belief in God. Then, after taking these factors into account, he entered reported religious experience. The statistics demonstrated that reported religious experience was a significant additional predictor of a positive attitude toward Christianity,

even after controlling for the influences of church attendance, personal prayer and belief in God.

The theory was tested for the second time by Greer and Francis (1992), drawing on data generated by 2,133 12-17 year old students attending both Protestant and Catholic schools, for the third time by Francis and Greer (1999), drawing on data generated by 2,129 third-, fourth-, fifth-, and sixth-form students attending both Protestant and Catholic schools, and for a fourth time by Francis, ap Siôn, Lewis, Robbins, and Barnes (2006), drawing on data generated by 2,359 sixth-form students attending both Protestant and Catholic schools. The data from all four studies supported by hypothesis that the acknowledgement of personal religious experience is associated with the formation of more positive attitudes toward Christianity among young people in Northern Ireland.

Research question

The aim of the present study is to build on the work reported by Greer and Francis (1992), Francis and Greer (1993, 1999), and Francis, ap Siôn, Lewis, Robbins, and Barnes (2006) in three ways. First, the study replicates the earlier work within Northern Ireland on data collected in 2010 to examine whether the effect of religious experience on religious affect (attitude toward Christianity) established during the 1990s remained consistent in 2010. Second, the study extends the research from Northern Ireland to include the Republic of Ireland as well. Third, the study complements exploring the effect of religious experience on religious affect by adding to the research an established measure of personal affect, employing the Oxford Happiness Inventory. The hypothesis that religious experience may result in greater personal happiness and wellbeing is consistent with the first of Hardy's (1979) three categories of the consequences of religious experience, namely, a sense of purpose or new meaning in life.

The Oxford Happiness Inventory was developed by Argyle, Martin, and Crossland (1989) on the basis of a thorough theoretical discussion of the nature of happiness. Drawing on earlier analysis, Argyle and Crossland (1987) suggest that happiness can be measured by taking into account three empirical indicators: the frequency and degree of positive affect or joy; the average level of satisfaction over a period; and the absence of negative feelings, such as depression and anxiety. Working from this definition, they developed the Oxford Happiness Inventory by reversing the 21 items of the Beck Depression Inventory (Beck, Ward, Mendelson, Hock, and Erbaugh, 1961) and adding eleven further items to cover aspects of subjective wellbeing not so far included. Three items were subsequently dropped, leading to a 29-item scale. The constructors report an

internal reliability of .90 and a seven- week test-retest reliability of .78. Validity was established against happiness ratings by friends and by correlations with measures of positive affect, negative affect, and life satisfaction. A series of early studies employing the Oxford Happiness Inventory in a range of different ways confirmed the basic reliability and validity of the instrument and began to map the correlates of this operational definition of happiness. For example, Hills and Argyle (1998a) found that happiness was positively correlated with intensity of musical experience. Hills and Argyle (1998b) found that happiness was positively correlated with participation in sports. Chan and Joseph (2000) found that happiness was correlated positively with self-actualisation, self-esteem, likelihood of affiliation, community feeling and self-acceptance.

Control variables

Empirical studies exploring the connections between religion and personal affect need to take two main control variables into account. The first main control variable is sex. In his pioneering review of empirical studies within the psychology of religion, Argyle (1958) concluded that the most secure finding was that women were more religious than men. More recent reviews have confirmed that, within Christian and post-Christian cultures, this finding has remained secure in relation to a number of indices of religious practice, religious beliefs, and religious attitudes (Francis, 1997; Francis & Penny, 2014).

The second main control variable is personality. A model of personality that has proved to be particularly fertile within the empirical psychology of religion is the three dimensional model proposed by Hans Eysenck and his associates (see Beit-Hallahmi & Argyle, 1997, p. 164). This model has been operationalised in a series of self-completion instruments for application both among adults, including the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) and the Eysenck Personality Questionnaire Revised (Eysenck, Eysenck, & Barrett, 1985), and among young people, including the Junior Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) and the Junior Eysenck Questionnaire Revised (Corulla, 1990). Using these instruments a series of studies has demonstrated that higher levels of happiness are associated with extraversion and emotional stability (see Francis, Brown, Lester, & Philipchalk, 1998; Francis, 1999).

Method

Procedure

As part of a larger study concerned with sixth-form religion in Ireland, building on and extending work pioneered by John Greer in 1968 and documented by Greer (1972), schools catering for sixth-form students in Northern Ireland, and for fifth- and sixth-year students, the equivalent age-group, in the Republic of Ireland, were invited to participate in the project. The aim was to gather data from over 3,000 students in each nation. Within Northern Ireland both Catholic and Protestant schools were involved. All students attending the sixth-form classes within the participating schools were asked to complete a copy of the survey instrument. Within the Republic of Ireland responses were sought from young people in the variety of school types and patronage models provided for in the Republic, most of which have high percentages of students who self-identify as Catholic. Students were assured of complete confidentiality and anonymity and given the option not to submit their copy of the questionnaire for analysis.

Participants

All successfully completed questionnaires were submitted by 3,848 students in the Republic of Ireland and by 3,523 students in Northern Ireland. The 3,848 participants from the Republic of Ireland comprised 1,895 male students and 1,953 female students; 9% were aged 16 years, 36% 17 years, 40% 18 years, and 16% 19 years; 22% attended church weekly, with a further 8% attending at least monthly, while 56% attend church less than once a month, and 14% never attended church. The 3,523 participants from Northern Ireland comprised 1,652 male students and 1,953 female students; 1,591 students attending Protestant schools, 1,618 attending Catholic schools, and 314 attending integrated schools; 21% were aged 16 years, 51% were aged 17 years, and 28% were aged 18 years; 37% attended church weekly, with a further 8% attending at least monthly, while 37% attended church less than once a month, and 18% never attended church.

Measures

The participants completed three measures: happiness was assessed by the Oxford Happiness Inventory; religiosity was assessed by the Francis Scale of Attitude toward

Christianity; personality was assessed by the Short-form Eysenck Personality Questionnaire Revised.

The Oxford Happiness Inventory (Argyle, Martin, & Crossland, 1989) is a 29-item multiple choice instrument. Each item contains four options, constructed to reflect incremental steps defined as: unhappy or mildly depressed, a low level of happiness, a high level of happiness, and mania. The respondents are asked to 'pick out the one statement in each group which best describes the way you have been feeling over the past week, including today.' An example item reads: 'I don't feel life is particularly rewarding' (unhappy or mildly depressed), 'I feel life is rewarding' (a low level of happiness), 'I feel that life is very rewarding' (a high level of happiness), and 'I feel that life is overflowing with rewards' (mania).

The Francis Scale of Attitude toward Christianity (Francis, Lewis, Philipchalk, Brown, & Lester, 1995) is a 24-item instrument designed to measure affective responses to five aspects of the Christian tradition: God, Jesus, Bible, prayer, and church. Each item is assessed on a five-point scale: 'agree strongly,' 'agree,' 'not certain,' 'disagree,' and 'disagree strongly.' Example items include: 'Prayer helps me a lot'; 'God is very real to me'; 'I think the Bible is out of date'; 'I know that Jesus helps me'; and 'I think church services are boring'.

The abbreviated form of the Eysenck Personality Questionnaire Revised (Francis, Brown, & Philipchalk, 1992; Francis, Robbins, Loudon, & Haley, 2001) is a 24-item instrument composed of four six-item measures of extraversion, neuroticism, psychoticism and a lie scale. Each item is assessed on a two point scale: 'yes' and 'no'. The present analyses drew on the extraversion scale and the neuroticism scale. Example items from the extraversion scale include: 'Are you a talkative person?' and 'Can you easily get some life into a rather dull party?' Example items from the neuroticism scale include: 'Does your mood often go up and down?' and 'Are you a worrier?'

Religious experience was assessed by the Greer Question: 'Have you ever had an experience of God, for example, his presence or his help or anything else?'. Responses were rated: yes (2), no (1). Sex was coded in the conventional manner: males (1) and females (2). Location was coded as follows: Republic of Ireland (1) and Northern Ireland (2).

Results in the Republic of Ireland

The Greer Question

Among this group of 3,848 students within the Republic of Ireland, slightly more than one in four (26.3%) responded 'yes' to the Greer Question: 'Have you ever had an experience of God, for example, his presence or his help or anything else?' The response was significantly higher ($\chi^2 = 5.6$, $p < .05$) among females (28.0%) than among males (24.6%). There was no significant difference ($\chi^2 = .01$, ns) between the endorsement of 16- to 17-year-old students (26.5%) and 18- to 19-year-old students (26.2%). There were significant differences in levels of endorsement in line with frequency of church attendance ($\chi^2 = 166.6$, $p < .001$): 40.5% among weekly churchgoers, 34.0% among monthly churchgoers, 23.2% among occasional churchgoers, and 11.7% among those who never attend church.

Psychological measures

Table 1

Scale properties (Republic of Ireland)

	N items	Alpha	Mean	SD
Oxford Happiness Inventory	29	.91	43.0	13.2
Attitude toward Christianity	24	.96	74.6	20.3
Eysenck Extraversion Scale	6	.66	3.3	1.7
Eysenck Neuroticism Scale	6	.73	4.6	1.6

Table 1 presents the psychometric properties of the four scales deployed in the present study: the Oxford Happiness Inventory, the Francis Scale of Attitude toward Christianity, the Eysenck Extraversion Scale, and the Eysenck Neuroticism Scale. The alpha coefficients (Cronbach, 1951) demonstrate a very high level of internal consistency reliability for the Oxford Happiness Inventory and for the Francis Scale of Attitude toward Christianity. The alpha coefficients for the two Eysenckian measures are acceptable and appropriate for such short instruments.

Personal affect

Table 2

Regression models on personal affect (Republic of Ireland)

	r	Model 1	Model 2	Model 3	Model 4
<i>Personal factors</i>					
Sex	-.05***	-.06***	-.02	-.02	-.02
Age	-.07***	-.07***	-.07***	-.07***	-.07***
<i>Psychological factors</i>					
Extraversion	.30***		.24***	.24***	.24***
Emotionality	-.36***		-.31***	-.31***	-.32***
<i>Religious factors</i>					
Attendance	.07***			.09***	.08***
<i>Religious experience</i>					
Yes	.08***				.07***
R ²		.008	.190	.198	.202
Δ		.008***	.182***	.008***	.004***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 2 presents the bivariate correlation coefficients and the four regression models designed to explore the effect of religious experience on personal affect. The correlation coefficients in the first column demonstrate that: personal affect is significantly lower among female students than among male students, and is significantly lower among 18- to 19-year-old students than among 16- to 17-year-old students; personal affect is significantly associated with extraversion and with emotional stability; and there are

significant positive associations between personal affect and both religious attendance and religious experience. These multiple associations with personal affect indicate that it is prudent to take into account the effects of personal factors (sex and age), psychological factors (extraversion and neuroticism) and frequency of church attendance before testing the association between religious experience and personal affect. The four steps in the regression model make explicit the way in which personal factors are introduced to model 1, psychological factors are added into model 2, church attendance is added into model 3, and finally religious experience is added into model 4. The increase in R² demonstrates that additional variance in personal affect is explained by each step. In other words, having and acknowledging a religious experience has a significant effect on personal affect after the effects of personal factors, psychological factors, and church attendance have been taken into account.

Religious affect

Table 3 presents the bivariate correlation coefficients and the four regression models designed to explore the effect of religious experience on religious affect. The correlation coefficients in the first column demonstrate that: religious affect is significantly higher among female students than among male students; there is no significant association between religious affect and either age or extraversion; religious affect is significantly associated with emotional lability; and there are significant positive associations between religious affect and both religious attendance and religious experience. These multiple associations with religious affect indicate that it is prudent to take into account the effects of personal factors (especially sex), psychological factors (especially neuroticism), and frequency of church attendance before testing the association between religious experience and religious affect. The increase in R² demonstrates that additional variance in religious affect is explained by each of the four steps in the regression model. In other words, having and acknowledging a religious experience has a significant effect on religious affect after the effects of personal factors, psychological factors, and church attendance have been taken into account.

Table 3

Correlations and regression models on religious affect (Republic of Ireland)

	r	Model 1	Model 2	Model 3	Model 4
<i>Personal factors</i>					
Sex	.11***	.10***	.08***	.08***	.07***
Age	-.03	-.02	-.02	-.02	-.02
<i>Psychological factors</i>					
Extraversion	.02		.03	.04**	.02
Emotionality	.09***		.08***	.07***	.05***
<i>Religious factors</i>					
Attendance	.52***			.52***	.45***
<i>Religious experience</i>					
Yes	.41***				.32***
R ²		.011	.017	.285	.379
Δ		.011***	.005***	.268***	.094***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Results in Northern Ireland

The Greer question

Among this group of 3,523 students within Northern Ireland more than one in four (28.6%) responded 'yes' to the Greer question. The response was significantly higher ($\chi^2 = 67.4$, $p < .001$) among females (36.5%) than among males (23.3%). The response was significantly higher ($\chi^2 = 15.7$, $p < .001$) among 18- to 19-year-old students (35.6%) than

among 16- to 17-year-old students (28.4%). There were significant differences in levels of endorsement in line with frequency of church attendance ($\chi^2 = 479.6$, $p < .001$): 51.0% among weekly churchgoers, 38.2% among monthly churchgoers, 19.7% among occasional churchgoers, and 6.8% among those who never attend church.

Psychological measures

Table 4

Scale properties (Northern Ireland)

	N items	Alpha	Mean	SD
Oxford Happiness Inventory	29	.91	42.4	12.9
Attitude toward Christianity	24	.96	79.1	24.4
Eysenck Extraversion Scale	6	.69	3.6	1.7
Eysenck Neuroticism Scale	6	.79	4.4	1.8

Table 4 presents the psychometric properties of the four scales deployed in the present study: the Oxford Happiness Inventory, the Francis Scale of Attitude toward Christianity, the Eysenck Extraversion Scale, and the Eysenck Neuroticism Scale. The alpha coefficients (Cronbach, 1951) demonstrate a very high level of internal consistency reliability for the Oxford Happiness Inventory and for the Francis Scale of Attitude toward Christianity. The alpha coefficients for the two Eysenckian measures are acceptable and appropriate for such short instruments.

Personal affect

Table 5 presents the bivariate correlation coefficients and the four regression models designed to explore the effect of religious experience on personal affect. The correlation coefficients in the first column demonstrate that: personal affect is significantly lower among female students than among male students, and there is no significant difference between the scores among 18- to 19-year-old students and 16- to 17-year-old students; personal affect is significantly associated with extraversion and with emotional stability; and there are significant positive associations between personal affect and both religious

Table 5

Regression models on personal affect (Northern Ireland)

	r	Model 1	Model 2	Model 3	Model 4
<i>Personal factors</i>					
Sex	-.06**	-.06***	-.00	-.02	-.02
Age	-.01	-.01	-.01	-.01	-.01
<i>Psychological factors</i>					
Extraversion	.34***		.29***	.29***	.28***
Emotionality	-.38***		-.33***	-.33***	-.33***
<i>Religious factors</i>					
Attendance	.09***			.10***	.07***
<i>Religious experience</i>					
Yes	.09***				.07***
R ²		.003	.225	.235	.239
Δ		.003**	.222***	.010***	.004***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

attendance and religious experience. The multiple association with personal affect indicates that it is prudent to take into account the effects of personal factors (sex and age), psychological factors (extraversion and neuroticism) and frequency of church attendance before testing the association between religious experience and personal affect. The four steps in the regression model make explicit the way in which personal factors are introduced to model 1, psychological factors are added into model 2, church attendance is added into model 3, and finally religious experience is added into model 4. The increase in R² demonstrates that additional variance in personal affect is explained by each step. In other words, having and acknowledging a religious experience has a

significant effect on personal affect after the effects of personal factors, psychological factors, and church attendance have been taken into account.

Religious affect

Table 6

Correlations and regression models on religious affect (Northern Ireland)

	r	Model 1	Model 2	Model 3	Model 4
<i>Personal factors</i>					
Sex	.22***	.22***	.21***	.13***	.10***
Age	-.03	-.02	-.02	-.04**	-.02
<i>Psychological factors</i>					
Extraversion	.04*		.03	.03*	.02
Emotionality	.10***		.07***	.06***	.04***
<i>Religious factors</i>					
Attendance	.64***			.62***	.48***
<i>Religious experience</i>					
Yes	.58***				.38***
R ²		.050	.055	.432	.550
Δ		.050***	.004***	.377***	.118***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 6 presents the bivariate correlation coefficients and the four regression models designed to explore the effect of religious experience on religious affect. The correlation coefficients in the first column demonstrate that: religious affect is significantly higher

among female students than among male students; there is no significant association between religious affect and age; religious affect is significantly associated with extraversion and emotional lability; and there are significant positive associations between religious affect and both religious attendance and religious experience. These multiple associations with religious affect indicate that it is prudent to take into account the effects of personal factors (especially sex), psychological factors (especially neuroticism), and frequency of church attendance before testing the association between religious experience and religious affect. The increase in R^2 demonstrates that additional variance in religious affect is explained by each of the four steps in the regression model. In other words, having and acknowledging a religious experience has a significant effect on religious affect after the effects of personal factors, psychological factors, and church attendance have been taken into account.

Conclusion

Building on an analytic model proposed and tested by four earlier studies conducted among young people within Northern Ireland (see Greer & Francis, 1992; Francis & Greer, 1993, 1999; Francis, ap Siôn, Lewis, Robbins, & Barnes, 2006), the present study set out to explore the consequences of religious experience among 7,371 students between the ages of 16 and 19 years attending schools in Northern Ireland and the Republic of Ireland in 2010. The earlier research conducted during the 1970s, 1980s, and 1990s had demonstrated the positive effect of religious experience on shaping religious affect. Building on this earlier research the present study has made four original contributions to knowledge.

First, the study has demonstrated that the Greer Question, originally formulated in the 1970s still had traction among young people in 2010. In 2010 a positive response was given to the Greer Question (Have you ever had an experience of God, for example, his presence or his help or anything else?) by 28.6% of the students in Northern Ireland and by 26.3% of the students in the Republic of Ireland. The strength of the Greer Question resides in specific theistic reference. This allows the interpretation of a positive response to reflect not only acknowledgement of an experience, but also a theistic interpretation of that experience. For at least one in four of the participating 16- to 19-year-old students in the Republic of Ireland and in Northern Ireland an experience of God (his presence, his help or anything else) was still strong in 2010. Further research would be helpful in 2020 using the same question to map the trajectory of theistic faith within the two nations on the island of Ireland.

Second, the study has confirmed the findings reported by Greer and Francis (1992), Francis and Greer (1993, 1999), and Francis, ap Siôn, Lewis, Robbins, and Barnes (2006) that, within the cultural context of Northern Ireland, having and acknowledging religious experience exerted a positive effect on religious affect. In other words, religious experience theistically interpreted was associated with a more positive attitude toward Christianity.

Third, the study has extended the findings reported by Greer and Francis (1992), Francis and Greer (1993, 1999), and Francis, ap Siôn, Lewis, Robbins, and Barnes (2006) by demonstrating that, within the cultural context of Northern Ireland, having and acknowledging religious experience exerted a positive effect not only on religious affect, but also on personal affect. In other words, religious experience theistically interpreted was associated with a higher level of happiness and personal wellbeing.

Fourth, the study has extended the potential generalisability of earlier findings reported by Greer and Francis (1992), Francis and Greer (1993, 1999), and Francis, ap Siôn, Lewis, Robbins, and Barnes (2006) within Northern Ireland by demonstrating similar findings within a second nation (Republic of Ireland) that is culturally, politically, and religiously different from Northern Ireland.

Having now tested the Greer Question in both Northern Ireland and the Republic of Ireland in 2010 and established its significant effect on the Francis Scale of Attitude toward Christianity (see Francis, 1989, 2009) and on the Oxford Happiness Inventory (see Argyle & Crossland, 1987; Argyle, Martin, & Crossland, 1989) there would be clear value in including all three measures, alongside the Eysenkian dimensional model of personality (see Eysenck & Eysenck, 1975, 1991), in a replication study in 2020. There would also be value in exploring other potential dependent variables in order to widen the exploration of potential consequences of religious experience. One potentially interesting construct would be the notion of empathy, exploring the potential consequence of religious experience in terms of attitude towards others. Already there is an established research tradition connecting other aspects of religiosity with empathy as assessed by the 23-item empathy scale of the Junior Eysenck Impulsiveness Questionnaire (Eysenck, Easting, & Pearson, 1984), an instrument derived from the adult measure of emotional empathy proposed by Mehrabian and Epstein (1972), as illustrated by Francis and Pearson (1987), Francis (2007), Francis, Croft, and Pike (2012), and Francis, Lewis, and McKenna (2017). The hypothesis that religious experience may result in enhanced empathy is consistent with the third of Hardy's (1979) three categories of the consequences of religious experience, namely change in attitude to others.

Having now explored the consequence of religious experience among young people in the Republic of Ireland and in Northern Ireland using the Greer Question, there

would be value, alongside a direct replication study using the Greer Question, in conducting a parallel study employing a different religious experience question formulated in non-theistic terms.

References

Ap Siôn, T. (2006). 'Looking for signs of the presence of God in Northern Ireland: Religious experience among Catholic and Protestant sixth-form pupils.' *Archiv fur Religionpsychologie*, Vol. 28, No. 1, pp. 349-370. doi.org/10.1163/008467206777832490

ap Siôn, T. (2017). 'Religious experience among Catholic and Protestant sixth-form students in Northern Ireland: Looking for signs of the presence of God.' *Mental Health, Religion and Culture*, No. 20, pp. 330-347. doi.org/10.1080/13674676.2017.1279131

Argyle, M. (1958). *Religious behaviour*. London: Routledge and Kegan Paul. doi.org/10.4324/9780203001271

Argyle, M., & Crossland, J. (1987). 'Dimensions of positive emotions.' *British Journal of Social Psychology*, No. 26, pp. 127-137. doi.org/10.1111/j.2044-8309.1987.tb00773.x

Argyle, M., Martin, M., & Crossland, J. (1989). 'Happiness as a function of personality and social encounters.' In J. P. Forgas & J. M. Innes (Eds.), *Recent advances in social psychology: An international perspective* (pp. 189-203). Amsterdam: Elsevier Science Publishers.

Astley, J. (2002). *Ordinary theology: Looking listening and learning theology*. Aldershot: Ashgate.

Astley, J. (2017). 'Asking questions and analysing answers about religious experience: Developing the Greer tradition.' *Mental Health, Religion and Culture*, No. 20, pp. 348-358. doi.org/10.1080/13674676.2017.1280008

Astley, J. (2019). 'What can we learn about young people's religious experience, and why should we bother? Reflections on a study from the Republic of Ireland.' In G. Byrne & L. J. Francis (Eds.), *Religion and education: The voices of young people in Ireland* (pp. xx-xx). Dublin: Veritas.

Back, C. W., & Bourque, L. B. (1970). 'Can feelings be enumerated?' *Behavioural Science*, No. 15, pp. 487-496. doi.org/10.1002/bs.3830150603

Beck, T., Ward, C.H., Mendelson, M., Hock, J., & Erbaugh, J. (1961). 'An inventory for measuring depression.' *Archives of General Psychiatry*, No. 7, pp. 158-216.

Beit-Hallahmi, B., & Argyle, M. (1997). *The psychology of religious behaviour, belief and experience*. London: Routledge.

Chan, R., & Joseph, S. (2000). 'Dimensions of personality, domains of aspiration, and subjective well-being.' *Personality and Individual Differences*, No. 28, pp. 347-354.

Corulla, W. J. (1990). 'A revised version of the psychoticism scale for children.' *Personality and Individual Differences*, No. 11, pp. 65-76. [doi.org/10.1016/0191-8869\(90\)90169-R](https://doi.org/10.1016/0191-8869(90)90169-R)

Cox, E. (1967). *Sixth-form religion*. London: SCM.

Cronbach, L. J. (1951). 'Coefficient alpha and the internal structure of tests.' *Psychometrika*, No. 16, pp. 297-334. doi.org/10.1007/BF02310555

Eysenck, S .B. G., Easting, G., & Pearson, P. R. (1984). 'Age norms for impulsiveness in children.' *Personality and Individual Differences*, No. 5, pp. 315-321. [doi.org/10.1016/0191-8869\(84\)90070-9](https://doi.org/10.1016/0191-8869(84)90070-9)

Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual of the Eysenck Personality Questionnaire (adult and junior)*. London: Hodder and Stoughton.

Eysenck, H. J., & Eysenck, S. B. G. (1991). *Manual of the Eysenck Personality Scales*. London: Hodder and Stoughton.

Eysenck, S. B. G., Eysenck, H. J., & Barrett, P. (1985). 'A revised version of the psychoticism scale.' *Personality and Individual Differences*, No. 6, pp. 21-29. [doi.org/10.1016/0191-8869\(85\)90026-1](https://doi.org/10.1016/0191-8869(85)90026-1)

Fishbein, M. (1967). 'A consideration of beliefs and their role in attitude measurement.' In M. Fishbein (Ed.), *Readings on attitude theory and measurement* (pp. 257-266). New York: John Wiley and Son.

Francis, L. J. (1978a). 'Attitude and longitude: A study in measurement.' *Character Potential*, No. 8, pp. 119-130.

Francis, L. J. (1978b). 'Measurement reapplied: Research into the child's attitude towards religion.' *British Journal of Religious Education*, No. 1, pp. 45-51. doi.org/10.1080/0141620780010202

Francis, L. J. (1989). 'Measuring attitude towards Christianity during childhood and adolescence.' *Personality and Individual Differences*, No. 10, pp. 695-698. [doi.org/10.1016/0191-8869\(89\)90230-4](https://doi.org/10.1016/0191-8869(89)90230-4)

Francis, L. J. (1997). 'The psychology of gender differences in religion: A review of empirical research.' *Religion*, No. 27, pp. 81-96. doi.org/10.1006/reli.1996.0066

Francis, L. J. (1999). 'Happiness is a thing called stable extraversion: A further examination of the relationship between the Oxford Happiness Inventory and Eysenck's dimensional model of personality and gender.' *Personality and Individual Differences*, No. 26, pp. 5-11.

Francis, L. J. (2007). 'God images and empathy: A study among secondary school pupils in England.' In P. Heggy (Ed.) *What do we imagine God to be? The function of 'God images' in our lives* (pp. 67-88). Lampeter: Edwin Mellen Press.

Francis, L. J. (2009). 'Understanding the attitudinal dimensions of religion and spirituality.' In M. De Souza, L. J. Francis, J. O'Higgins-Norman, & D. G. Scott (Eds.), *International handbook of education for spirituality, care and wellbeing* (pp. 147-168). Dordrecht: Springer. doi.org/10.1007/978-1-4020-9018-9_9

Francis, L. J., ap Siôn, T., Lewis, C. A., Robbins, M., & Barnes, L. P. (2006). 'Attitude toward Christianity and religious experience: Replication among 16- to 18-year-old adolescents in Northern Ireland.' *Research in Education*, No. 76, pp. 56-61. doi.org/10.7227/RIE.76.5

Francis, L. J., Brown, L. B., & Philipchalk, R. (1992). 'The development of an abbreviated form of the Revised Eysenck Personality Questionnaire (EPQR-A): Its use among students

in England, Canada, the USA and Australia.' *Personality and Individual Differences*, No. 13, pp. 443-449. [doi.org/10.1016/0191-8869\(92\)90073-X](https://doi.org/10.1016/0191-8869(92)90073-X)

Francis, L. J., Brown, L. B., Lester, D., & Philipchalk, R. (1998). 'Happiness as stable extraversion: A cross-cultural examination of the reliability and validity of the Oxford Happiness Inventory among students in the UK, USA, Australia and Canada.' *Personality and Individual Differences*, No. 24, pp. 167-171.

Francis, L. J., Croft, J., & Pyke, A. (2012). 'Religious diversity, empathy and God images: Perspectives from the psychology of religion and empirical theology shaping a study among adolescents in the UK.' *Journal of Beliefs and Values*, No. 33, pp. 293-307. doi.org/10.1080/13617672.2012.732810

Francis, L. J., & Greer, J. E. (1990). 'Measuring attitudes towards Christianity among pupils in Protestant secondary schools in Northern Ireland.' *Personality and Individual Differences*, No. 11, pp. 853-856. [doi.org/10.1016/0191-8869\(90\)90195-W](https://doi.org/10.1016/0191-8869(90)90195-W)

Francis, L. J., & Greer, J. E. (1993). 'The contribution of religious experience to Christian development: A study among fourth, fifth and sixth year pupils in Northern Ireland.' *British Journal of Religious Education*, No. 15, pp. 38-43. doi.org/10.1080/0141620930150307

Francis, L. J., & Greer, J. E. (1999). 'Religious experience and attitude toward Christianity among Protestant Catholic adolescents in Northern Ireland.' *Research in Education*, No. 61, pp. 1-7. doi.org/10.7227/RIE.61.1

Francis, L. J., Lewis, C. A., & McKenna, U. (2017). 'Spirituality and empathy: A study among religiously unaffiliated adolescents within the UK.' *Spirituality of a Personality*, Vol. 3, No. 78, pp. 325-345.

Francis, L. J., Lewis, J. M., Philipchalk, R., Brown, L. B., & Lester, D. (1995). 'The internal consistency reliability and construct validity of the Francis Scale of Attitude toward Christianity (adult) among undergraduate students in the UK, USA, Australia and Canada.' *Personality and Individual Differences*, No. 19, pp. 949-953. [doi.org/10.1016/S0191-8869\(95\)00131-X](https://doi.org/10.1016/S0191-8869(95)00131-X)

Francis, L. J., & Pearson, P. R. (1987). 'Empathic development during adolescence: Religiosity the missing link?' *Personality and Individual Differences*, No. 8, pp. 145-148. [doi.org/10.1016/0191-8869\(87\)90024-9](https://doi.org/10.1016/0191-8869(87)90024-9)

Francis, L. J., & Penny, G. (2014). 'Gender differences in religion.' In V. Saroglou (Ed.). *Religion, personality and social behaviour*. New York. Psychology Press. pp. 313-337.

Francis, L. J., Robbins, M., Loudon, S. H., & Haley, J. M. (2001). 'A revised psychoticism scale for the Revised Eysenck Personality Questionnaire: A study among clergy.' *Psychological Report*, No. 88, pp. 1131-1134. doi.org/10.2466/pr0.2001.88.3c.1131

Franklin, J. (2014). *Exploration into spirit: A power greater than... : A history of the Alister Hardy Religious Experience Research Centre and Society, origins, development and vision*. Lampeter: Alister Hardy Religious Experience Research Centre.

Glock, C. Y., & Stark, R. (1965). *Religion and society in tension*. Chicago, IL: Rand McNally.

Greeley, A. M. (1974). *Ecstasy: A way of knowing*. Englewood: Cliffs, N. J. Prentice Hall.

Greer, J. E. (1972). *A questioning generation*. Belfast: Church of Ireland Board of Education.

Greer, J. E. (1981). 'Religious experience and religious education.' *Search*, Vol. 4, No. 1, pp. 23-34.

Greer, J. E. (1982). 'The religious experience of Northern Irish pupils.' *The Irish Catechist*, Vol. 6, No. 2, pp. 49-58.

Greer, J. E., & Francis, L. J. (1991). 'Measuring attitudes towards Christianity among pupils in Catholic secondary schools in Northern Ireland.' *Educational Research*, No. 33, pp. 70-73. doi.org/10.1080/0013188910330108

Greer, J. E., & Francis, L. J. (1992). 'Religious experience and attitude toward Christianity among secondary school children in Northern Ireland.' *Journal of Social Psychology*, No. 132, pp. 277-279. doi.org/10.1080/00224545.1992.9922983

Hardy, A. (1979). *The spiritual nature of man*. Oxford: Clarendon Press.

Hay, D. (1982). *Exploring inner space: Is God still possible in the twentieth century?* Harmondsworth: Penguin.

Hay, D. (2011). *God's biologist: A life of Alister Hardy*. London: Darton, Longman and Todd.

Hills, P., & Argyle, M. (1998a). 'Musical and religious experiences and their relationship to happiness.' *Personality and Individual Differences*, No. 25, pp. 91-102.

Hills, P., & Argyle, M. (1998b). 'Positive moods derived from leisure and their relationship to happiness and personality.' *Personality and Individual Differences*, No. 25, pp. 523-535.

Likert, R. (1932). 'A technique for the measurement of attitudes.' *Archives of Psychology*, No. 140, pp. 1-55.

Mehrabian, A., & Epstein, N. (1972). 'A measure of emotional empathy.' *Journal of Personality*, No. 40, pp. 525-543. doi.org/10.1111/j.1467-6494.1972.tb00078.x